

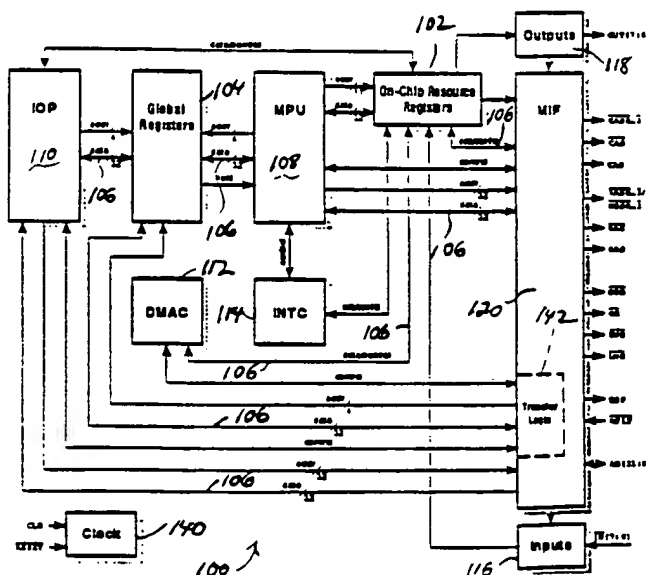
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>6</sup> : G06F 9/22, 12/04, 3/00</p>	<p>A3</p>	<p>(11) International Publication Number: WO 97/15001</p> <p>(43) International Publication Date: 24 April 1997 (24.04.97)</p>
<p>(21) International Application Number: PCT/US96/16013</p> <p>(22) International Filing Date: 4 October 1996 (04.10.96)</p> <p>(30) Priority Data: 60/005,408 6 October 1995 (06.10.95) US</p> <p>(71) Applicant (for all designated States except US): PATRIOT SCIENTIFIC CORPORATION [US/US]; Suite A, 12875 Brookprinter Place, Poway, CA 92064 (US).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): SHAW, George, W. [US/US]; 18944 Rainier Avenue, Hayward, CA 94541 (US). McCLURG, Martin, G. [US/US]; 17617 Mountain Charlie Road, Los Gatos, CA 95030 (US). JENSEN, Bradley, D. [US/US]; 5914 Fishburne Avenue, San Jose, CA 95123 (US). FISH, Russel, H., III [US/US]; 1 Green Lane, Austin, TX 78703 (US). MOORE, Charles, H. [US/US]; 410 Star Hill Road, Woodside, CA 94062 (US).</p> <p>(74) Agent: HIGGINS, Willis, E.; Cooley Godward L.L.P., Five Palo Alto Square, 3000 El Camino Real, Palo Alto, CA 94306-2155 (US).</p>		<p>(81) Designated States: JP, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 9 April 1998 (09.04.98)</p>

(54) Title: RISC MICROPROCESSOR ARCHITECTURE

**(57) Abstract**

MPU (108) contains 52 general-purpose registers, including 16 global data registers (104), an index register (132), a count register (134), a 16-deep addressable register/return stack (124), and an 18-deep operand stack (122). Both stacks contain an index register (128, or 130) in the top elements, are cached on chip, and, when required, automatically spill to and refill from external memory. The stacks minimize the data movement and also minimize memory access during procedure calls, parameter passing, and variable assignments. Additionally, the MPU contains a mode/status register (136) and 41 locally addressed registers (102) for I/O, control, configuration, and status. The CPU (100) contains both a high-performance, zero-operand, dual-stack architecture microprocessing unit (MPU) (108), and an input-output processor (IOP) (110) that executes instructions to transfer data, count events, measure time, and perform other timing-dependent functions.



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US96/16013

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06F 9/22, 12/04, 3/00

US CL : 395/308, 382, 898, 405, 490

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 395/308, 382, 898, 405, 490

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,410,654 A (FOSTER ET AL) 25 April 1995, col. 7, line 11- col. 12, line 39	1-12 ----- 13-38
Y	US 5,440,749 A (MOORE ET AL) 08 August 1995, col. 18, line 57- col. 19, line 44; col. 15, line 22-col. 17, line 17	13,14, 31,32,35
Y	US 5,410,682 A (SITES ET AL) 25 April 1995, col. 11, line 21- 45; col. 3, line 26 - col. 4, line 7	15, 34, 38
Y	US 4,803,621 A (KELLY) 07 February 1989, col. 2, line 32-col. 6, line 54	16,17

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

03 SEPTEMBER 1997

Date of mailing of the international search report

24 DEC 1997

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US96/16013

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y --- A	US 5,091,846 A (SACHS ET AL) 25 February 1992, col. 15, line 57 - col. 16, line 35	27-30, 37 ----- 39-42
Y	US 4,811,208 A (MYERS ET AL) 07 March 1989, col. 2 - col. 9	33
Y	US 5,261,057 A (COYLE ET AL) 09 November 1993, col. 3 - col. 13, line 17	18-26, 36

# PATENT COOPERATION TREATY

**PCT**

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

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Priority date (day/month/year)

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Applicant

SHAW, George, W. et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

06 May 1997 (06.05.97)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

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